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Response

Cait O'Sullivan correctly points out that one of the reasons more patients considering primary cardiovascular disease prevention will be treated with statins is that the Canadian dyslipidemia guidelines are based on all cardiovascular outcomes rather than the "hard" cardiovascular outcomes used in the Adult Treatment Panel (ATP) III guidelines. The new ATP IV guidelines, due at the end of the past year, have been slow to appear. This might be partly owing to new expectations regarding guidelines produced by the Institute of Medicine (a sort of guideline on guidelines),[1] but it also must certainly reflect a concern for the increasing cost of statin therapy with reduced probability of benefit as lower risk people are offered treatment.

The new ATP IV guidelines are expected this year, and I am concerned that they might resemble the Canadian guidelines, which tend to push individuals at intermediate risk toward treatment through use of high-sensitivity C-reactive protein evaluation and lower low-density lipoprotein (LDL) thresholds despite a lack of evidence for either as a risk indicator. There now seems to be increasing support for using statins to treat cardiovascular risk rather than LDL levels.[2] Perhaps the new constraints on guideline development will help promote more attention to evidence and reduce the influence of expert opinions and conflicts of interest.

Decisions for statin use in primary prevention, as has been pointed out, depend on risk assessment and treatment threshold. Individuals at all risk levels derive an equal relative benefit from statin use, but the absolute benefit to those at low risk is small indeed. Knowing the number needed to treat (NNT) helps with shared,

informed decision making. The best tool for assessment of risk, however, remains a very individual decision. Those preferring guidelines might opt for the Canadian dyslipidemia guidelines, perhaps without the high-sensitivity C-reactive protein option. Another alternative, as pointed out, would be to use the old ATP III model based on the "hard" Framingham outcomes (used in the older calculators), and add in the multiple for family history.[3]

Alternatively, a pragmatic approach would be to pick the tool for risk assessment, decide on threshold for treatment with the aid of the NNT along with patient consultation, and give a moderate dose of medium- or high-potency generic statin based entirely on level of risk, and without consideration of LDL levels.

The NNT generated in the dyslipidemia guidelines calculator comes from the Heart Protection Study.[4] Although this was primarily a study of secondary prevention, relative risk reduction is known to be similar across all levels of risk. It was found that 40 mg of simvastatin reduced incidence of all vascular events by 27%. This was the figure used to derive the NNT for the calculation. It is not possible to impute any degree of precision to this figure, but it is offered as the best available estimation of the therapeutic effect of a statin dose, given that most of the benefit is seen with that initial dose. The study was a very large randomized placebo-controlled trial, which showed a statin benefit for all vascular end points.

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Competing interests
None declared

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